



10th | **SENSOMETRICS**

Sensory Considerations in BIB Design

Chris Findlay, PhD.
Compusense Inc.
Guelph, Canada

cfindlay@compusense.com

Sensory Considerations in BIB Design

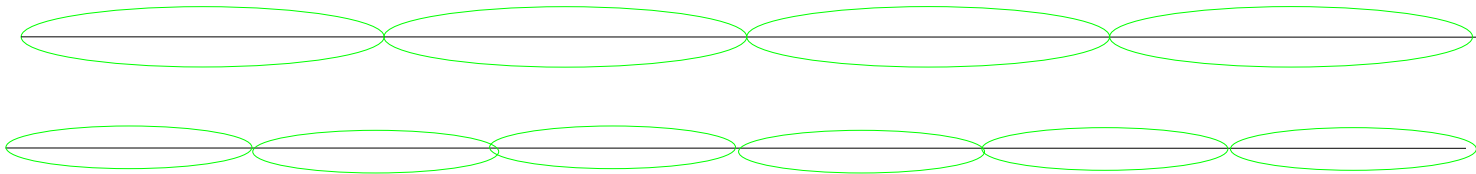
- All sensory and consumer testing is based upon the ability to perceive differences in products. It is obvious that discrimination testing is based upon measuring a population's probability of determining a true difference amongst or between products. Descriptive analysis uses the ability to correctly judge intensity of attributes of products to effectively show reliable differences across products in a sensory space. Equally true is the requirement that, to state a true preference, or to rate or rank liking, the consumer must be able to distinguish between products, otherwise the results are pure guesswork.

Is there a Difference?

- All sensory measures are based upon a real difference.
- Considerations:
 - Does the threshold demonstrate a wide range across the population ?
 - Is the attribute intensity close to threshold?
 - Is the sample part of an homogenous product?
 - What role does context play on perception?

Can we rate the difference on a scale?

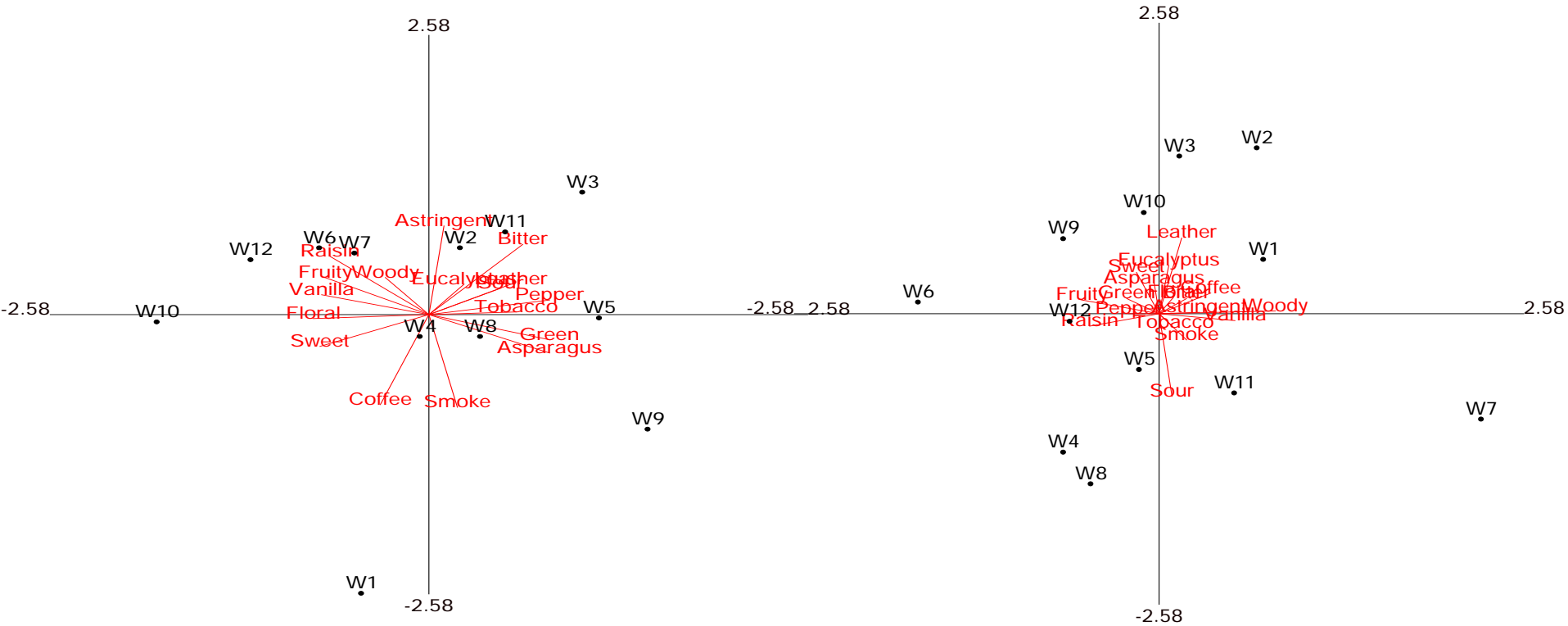
- Scales are comprised of meaningful units
- Zero is the absence of perceived stimulus
- Some Just Noticeable Difference will contribute to the scale measure
 - 4 JND's versus 6 JND's



Is there a Preference?

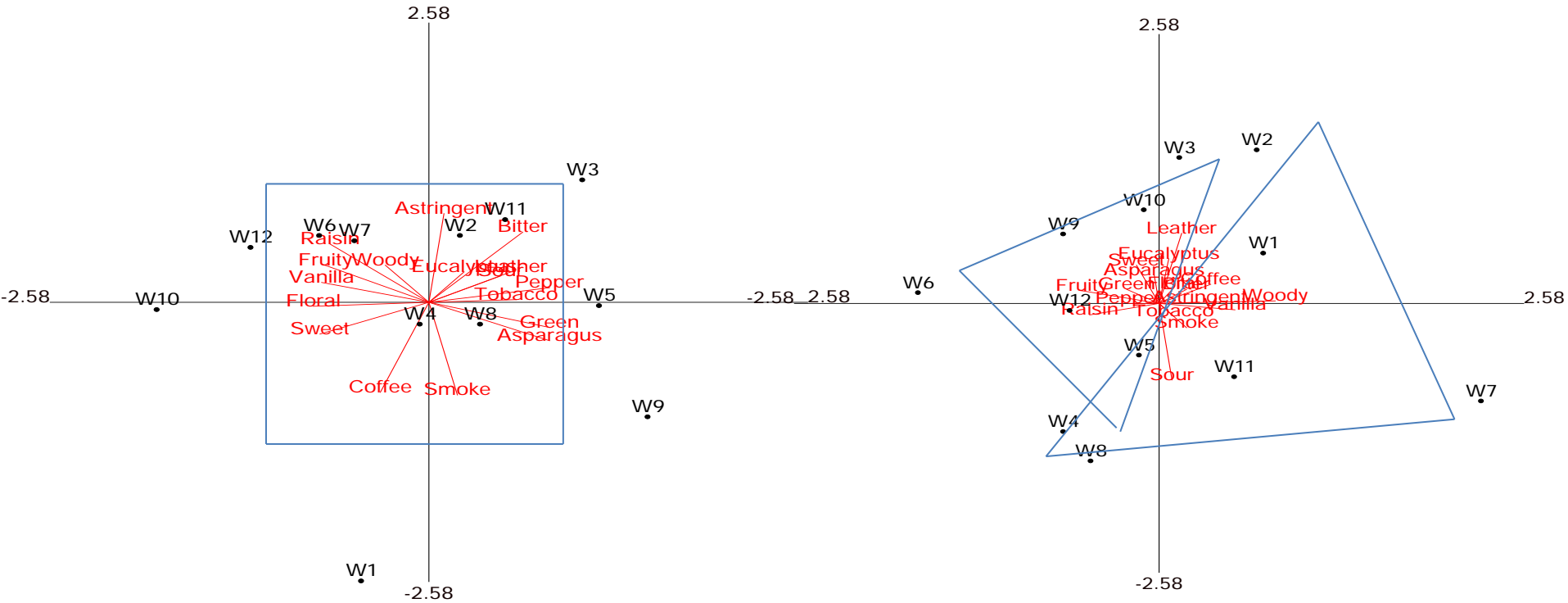
- To state a true preference a consumer must see a real difference.
- Otherwise it's just a guess.
- Considerations:
 - Do all attributes influence liking equally?
 - For all consumers?
 - In all contexts?

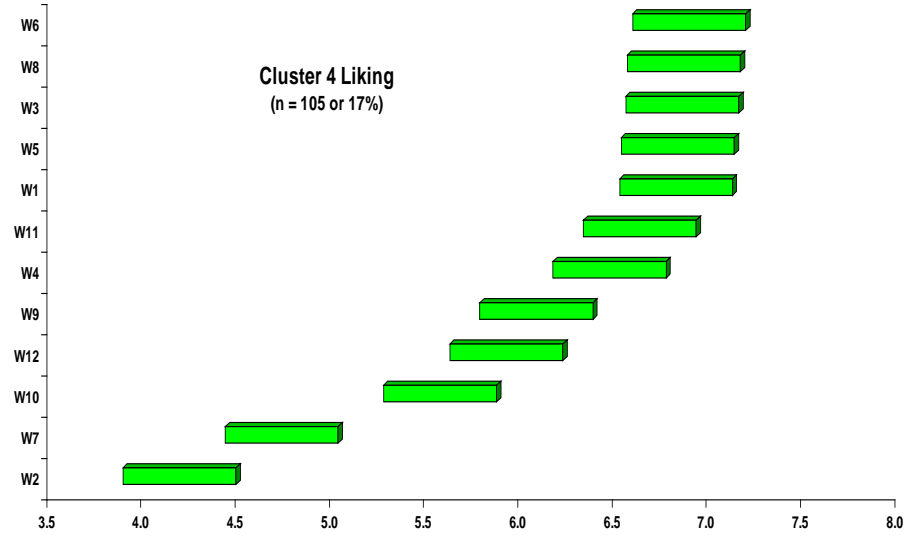
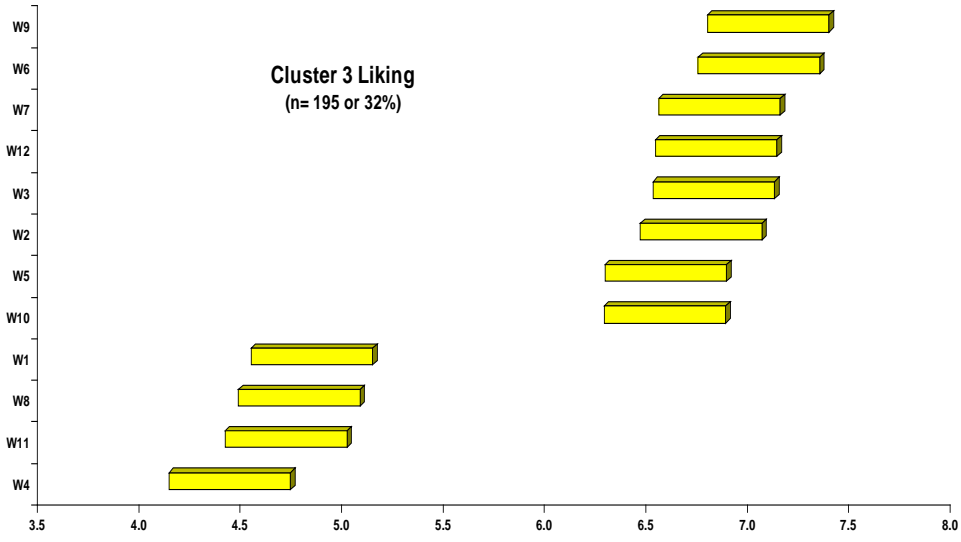
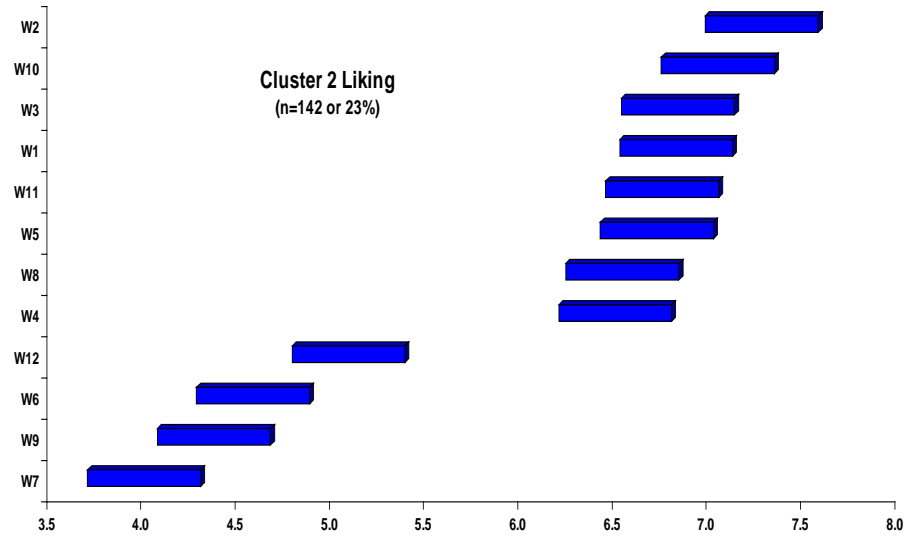
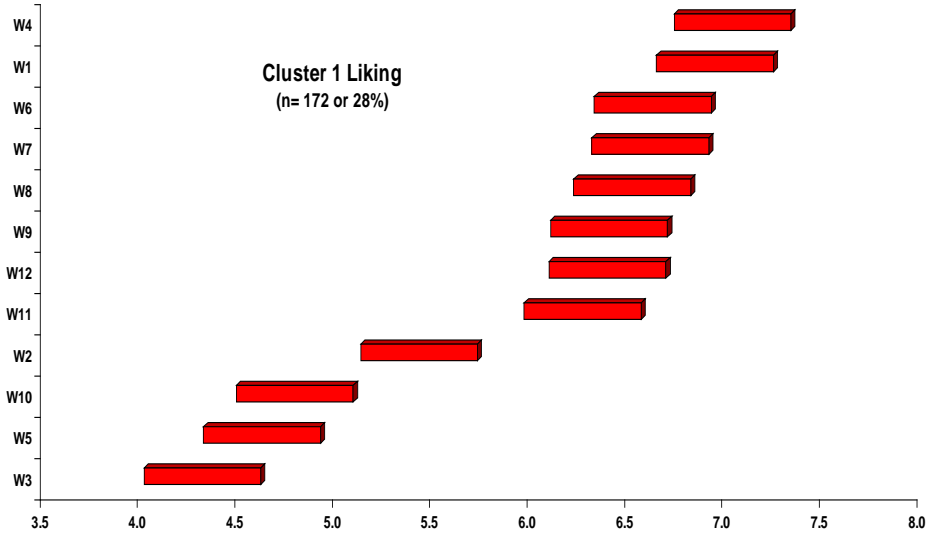
- Let's consider a sensory space

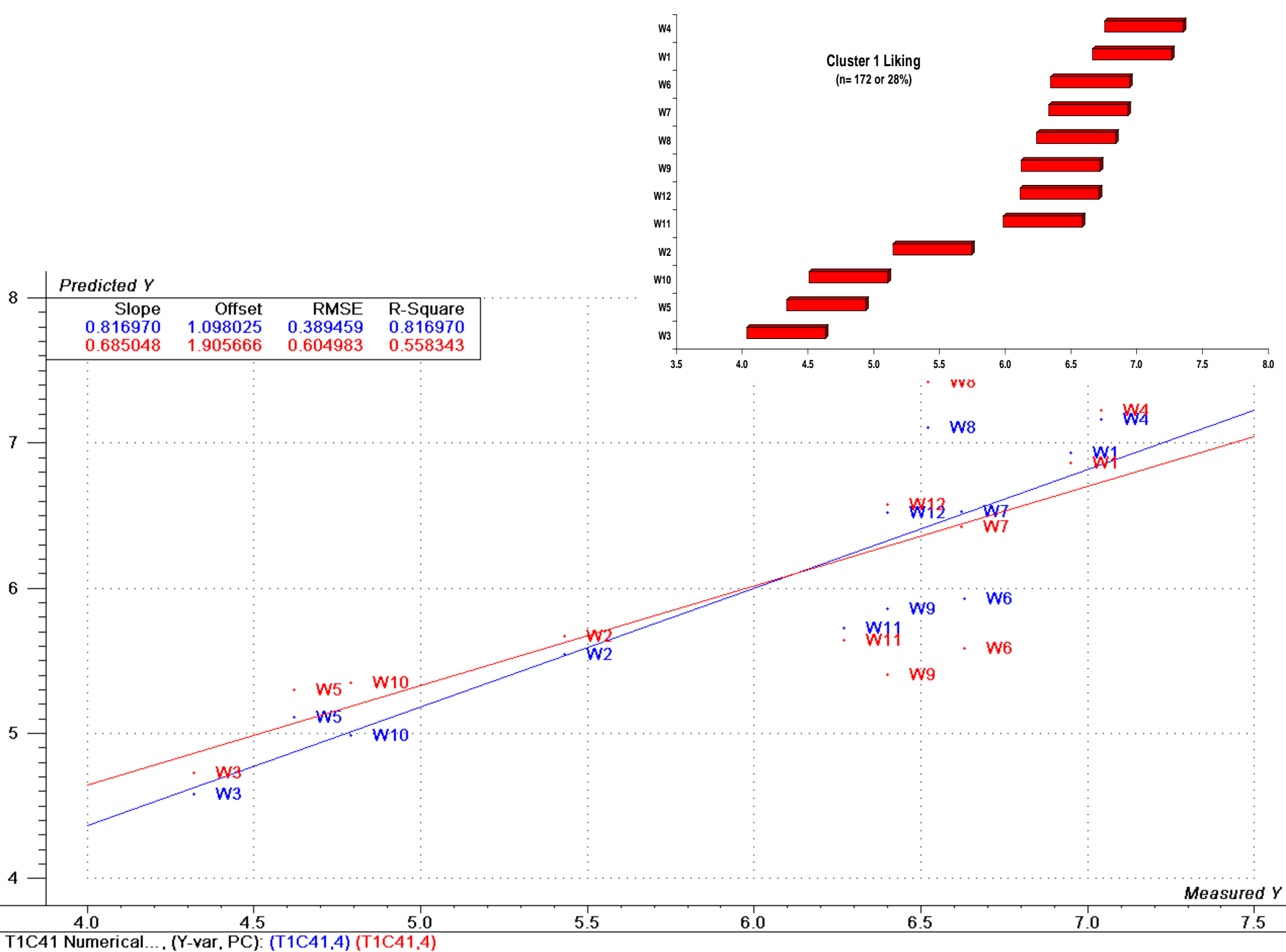


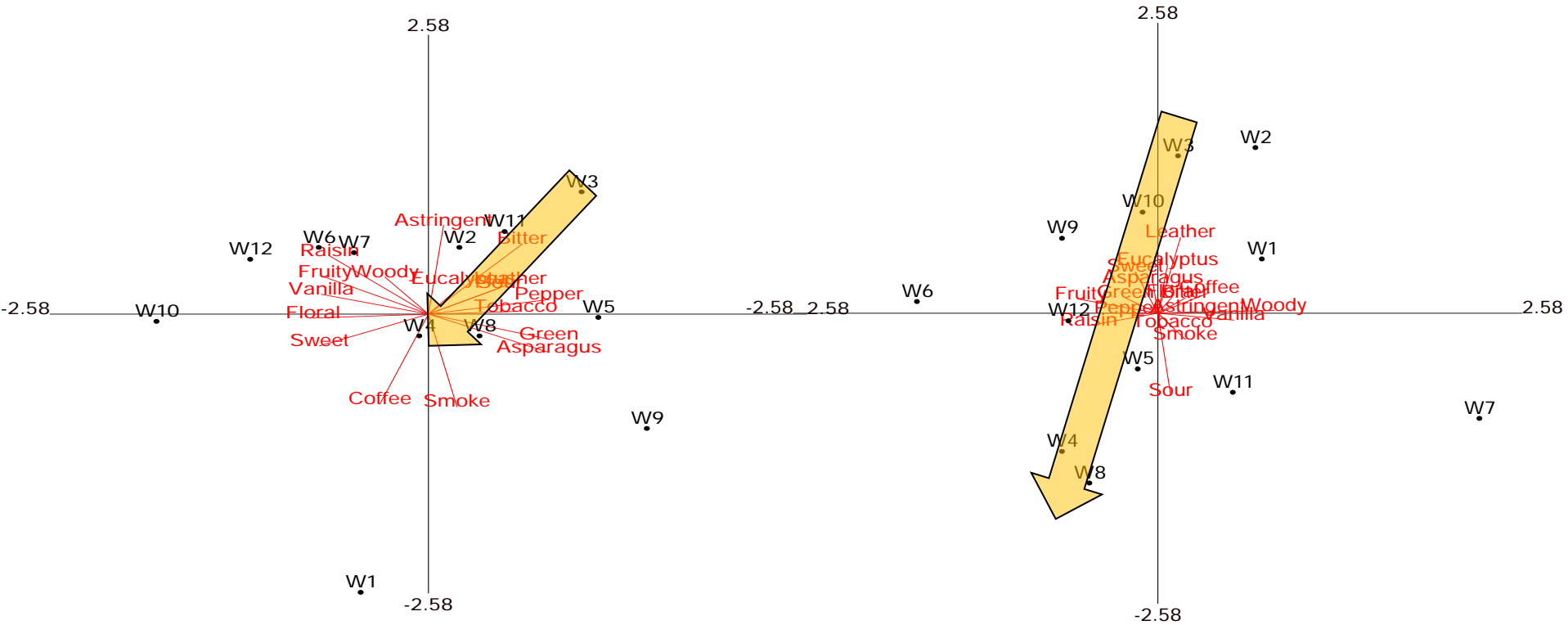
- Can we find logical contrasts to test

- Quadrangles and Triangles

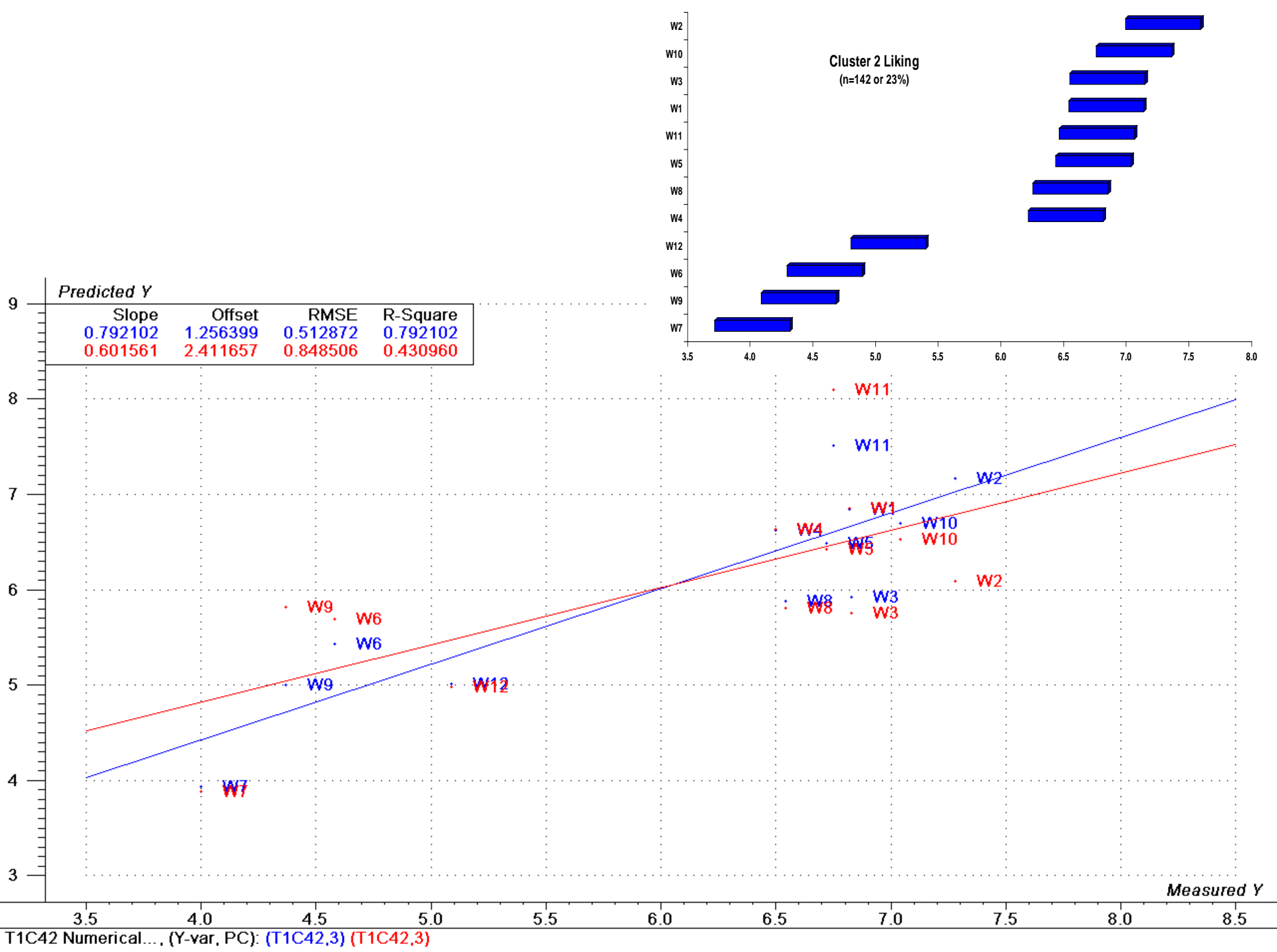


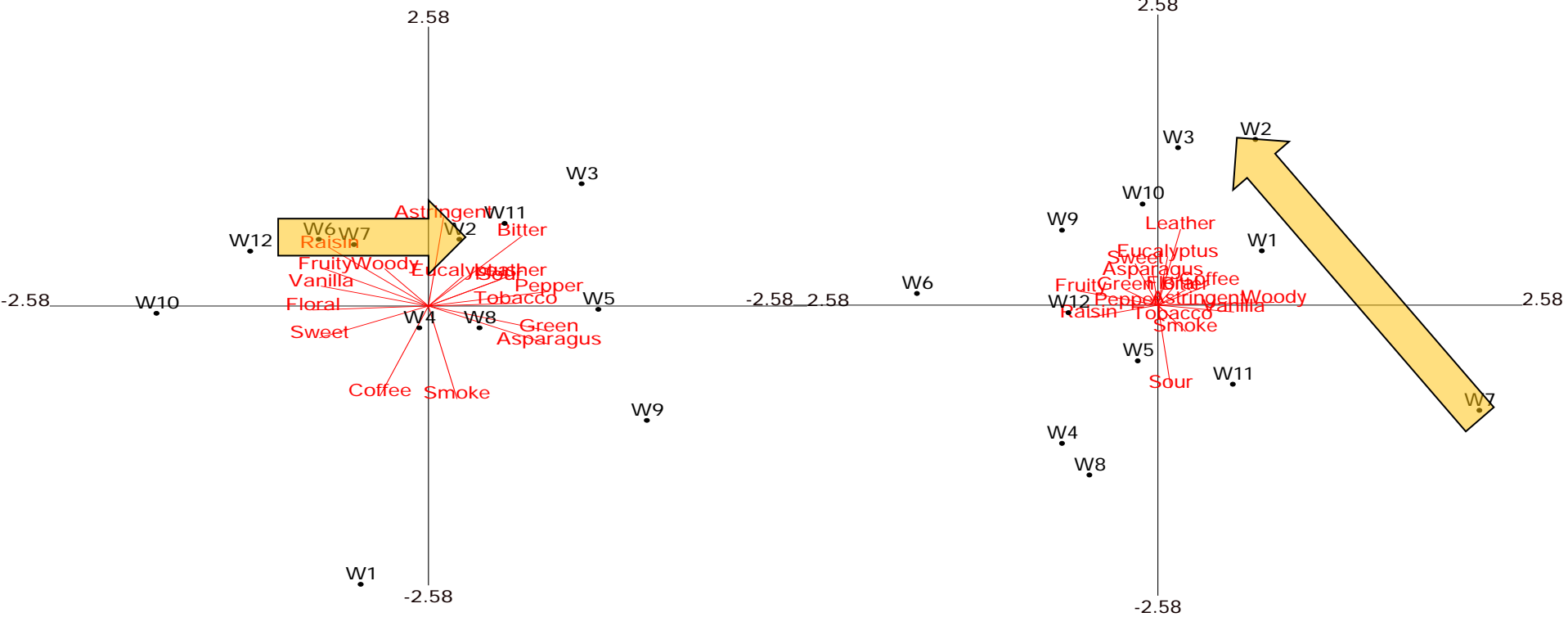




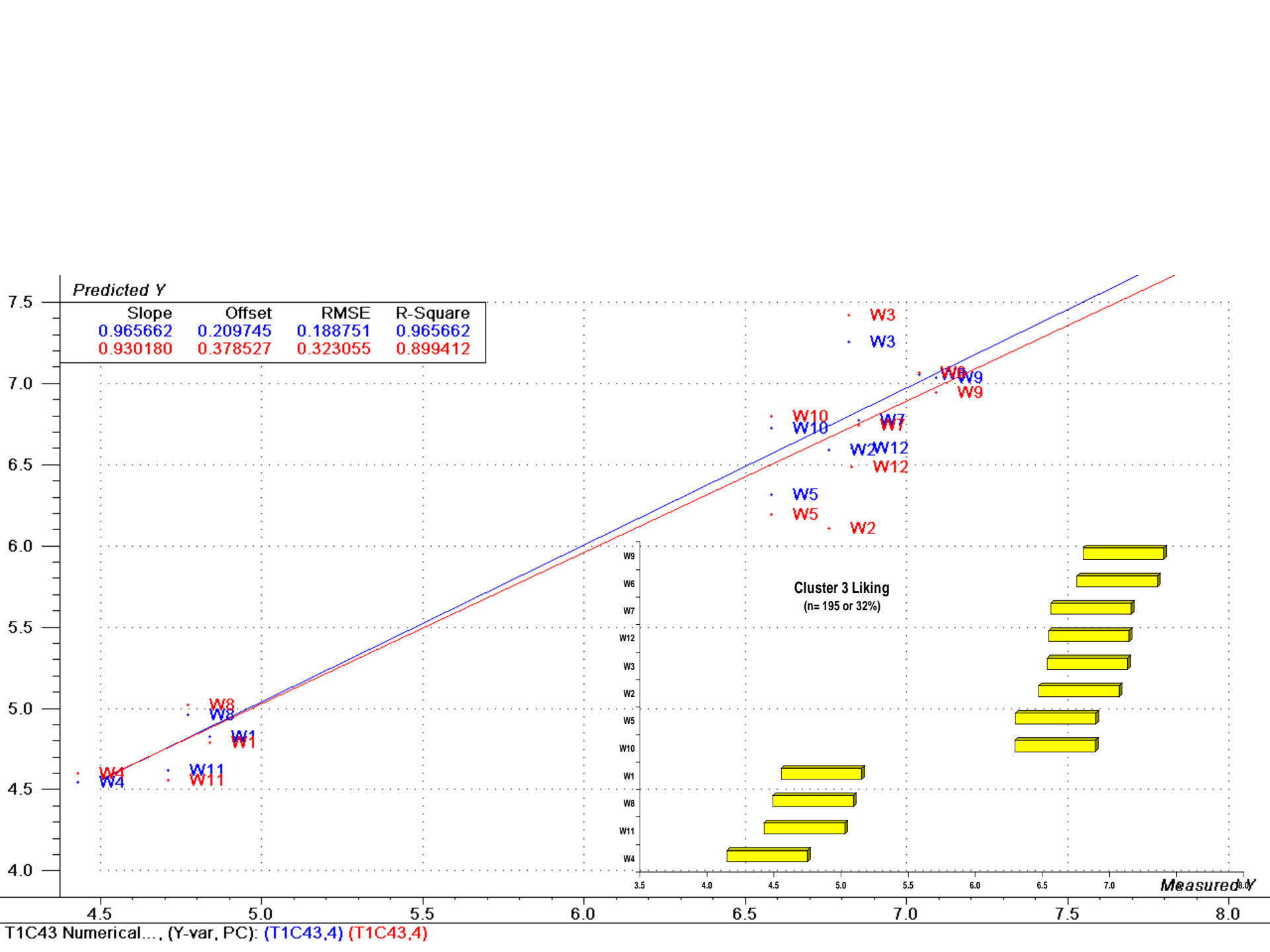


- Cluster #1 ++ W4 -- W3

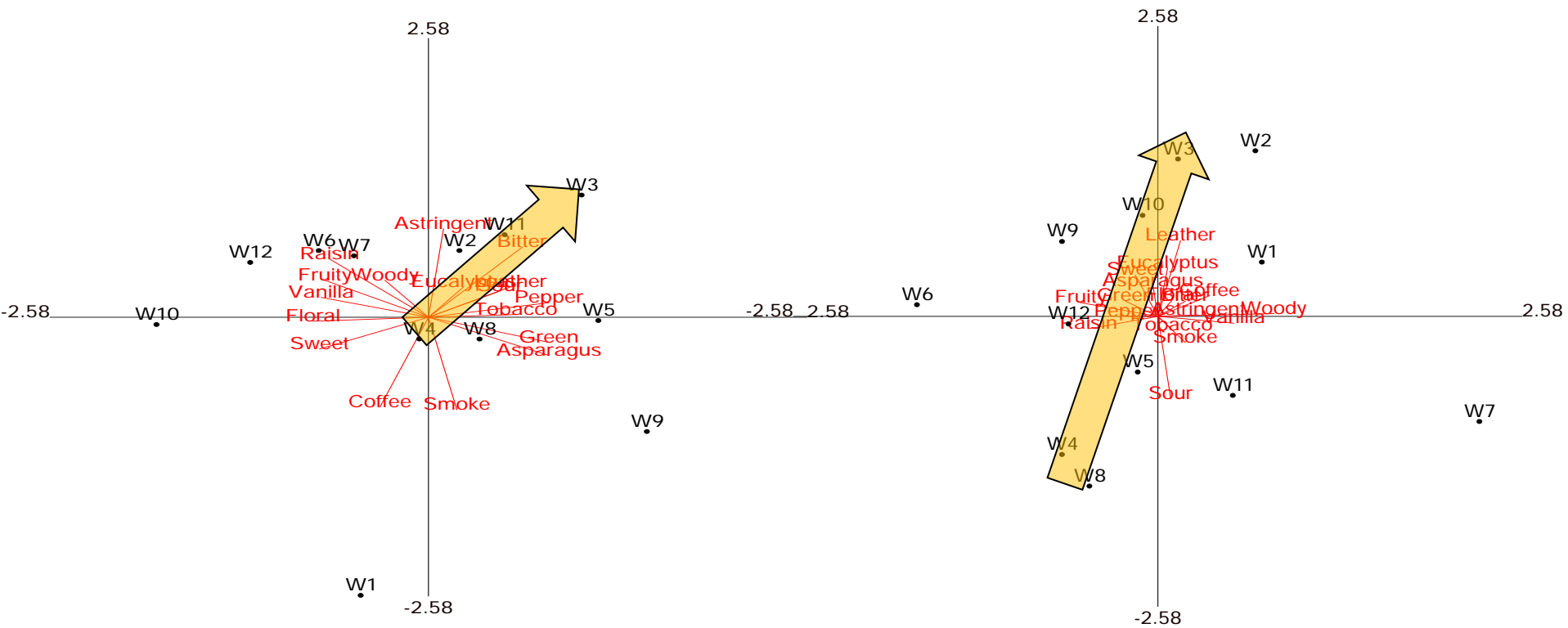




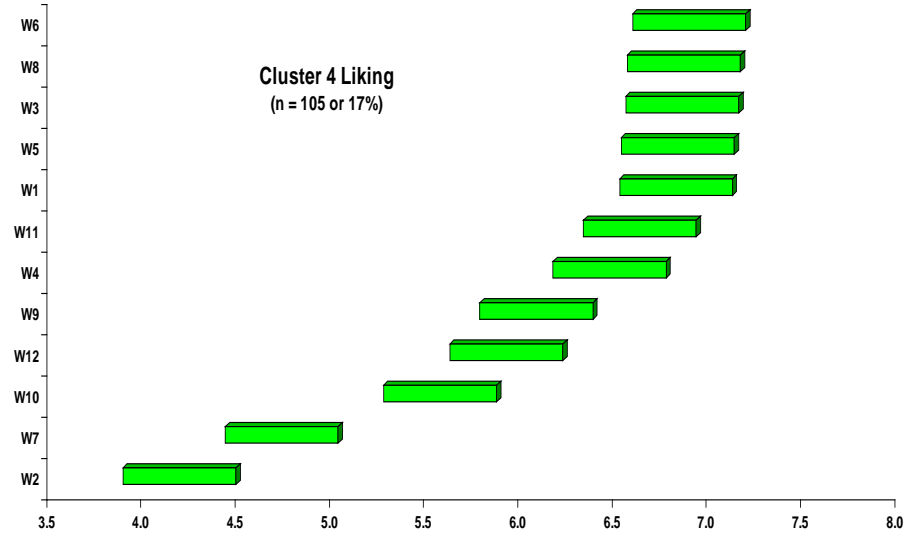
- Cluster #2 ++W7 --W2



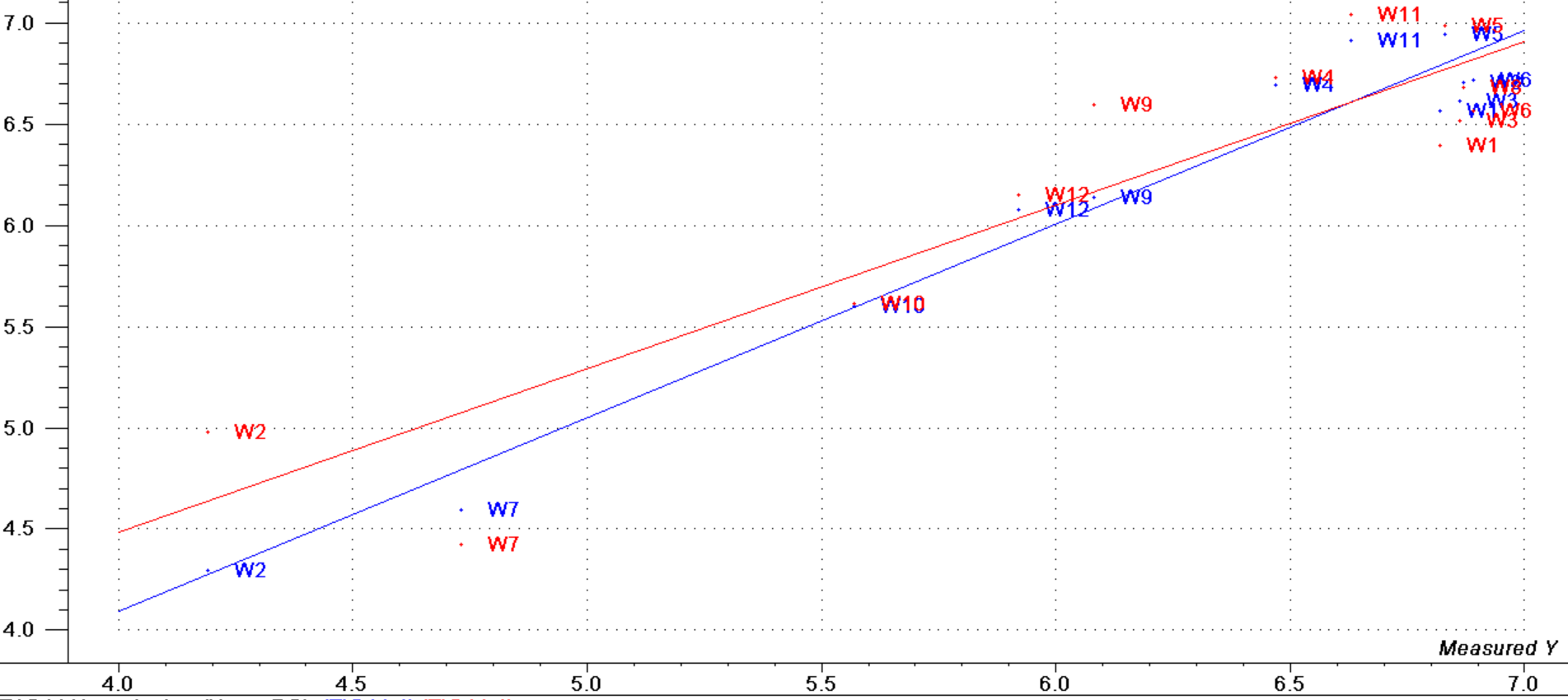
T1C43 Numerical..., (Y-var, PC): (T1C43,4) (T1C43,4)

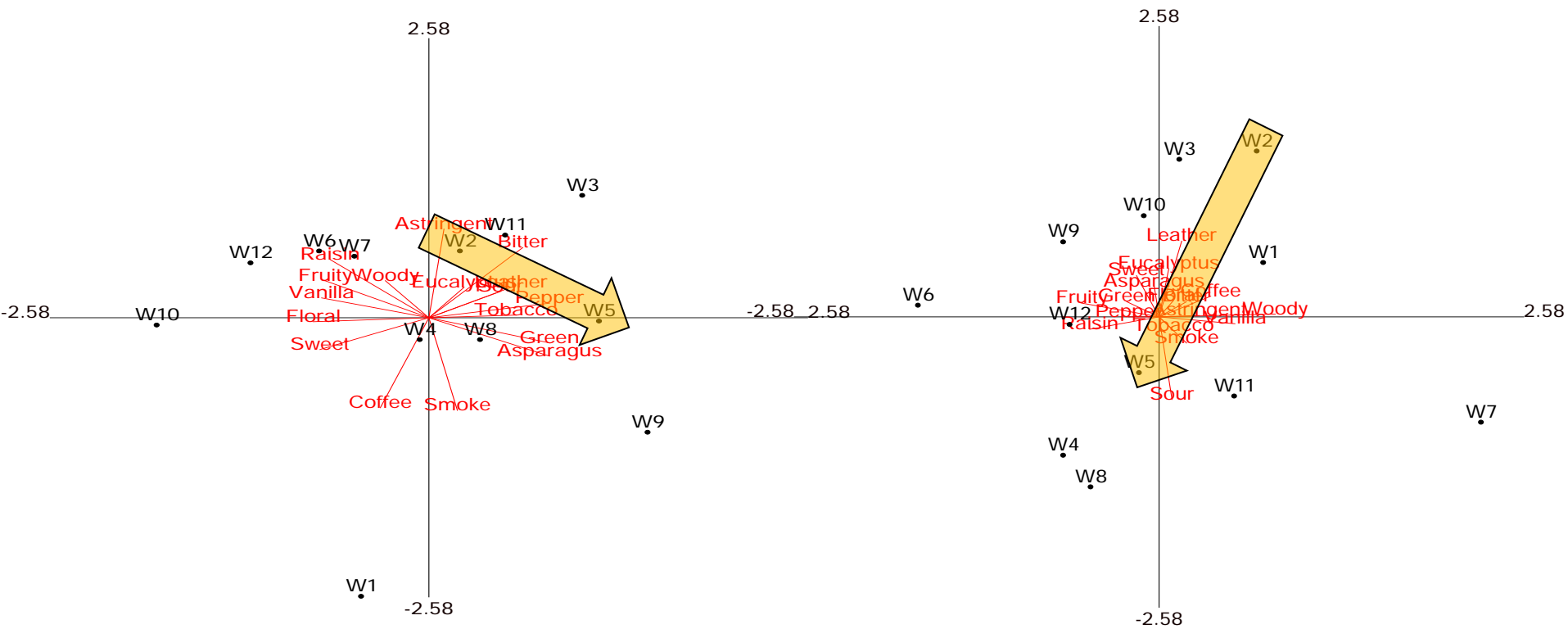


• Cluster #3 ++W3 --W4



Predicted Y			
Slope	Offset	RMSE	R-Square
0.957300	0.262828	0.179640	0.957299
0.806734	1.257791	0.382063	0.806849





Conclusion

- The selection of sensory contrasts may be used to strengthen the design of BIB experiments. If random incomplete blocks are chosen it is possible that groupings of quite similar products may be received by some assessors and widely different products by others. Prior knowledge of the sensory properties is essential in assigning blocks that will emphasize the inherent differences in the products and improve the quality of data from the study.